

HEALTH	1
FLAMMABILITY	2
REACTIVITY	0

Section 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product Name	Ketone Mixture, Natural
Product Number	A-60/A70
CAS-No.	110-43-0/821-55-6/112-12-9

1.2 Product Recommended Use

Flavorings

1.3 Preparation Information

Company	Aurochemicals 7 Nicoll Street Washingtonville, NY 10992- USA
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Telephone	845-496-6065
Fax	845-496-6248

1.4 Emergency Telephone Number

1-800-535-5053
International - 1-352-323-3500 collect

Section 2: HAZARD(s) IDENTIFICATION

2.1 Classification of substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)	Flammable liquids (Category 3), H226 Acute toxicity, Oral (Category 4), H302 Acute toxicity, Inhalation (Category 4), H332 Acute aquatic toxicity (Category 1), H400 Chronic aquatic toxicity (Category 1) H410
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2.2 GHS Label Elements, Including precautionary statements

Pictogram



Signal Statement

WARNING

Hazard Statement(s)

H226	Flammable liquid and vapor
H302+H332	Harmful if swallowed or inhaled
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H410	Very toxic to aquatic life with long lasting effects

Precautionary Statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking
P233	Keep container tightly closed
P240	Ground/bond container and receiving equipment
P241	Use explosion proof electrical/ventilating/lighting/equipment
P242	Use only non sparking tools
P243	Take precautionary measures against static discharge
P261	Avoid breathing dust/fume/gas/mist/vapors/spray
P264	Wash skin thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P271	Use only outdoors or in a well ventilated area
P280	Wear protective gloves/protective clothing/eye protection/face protection
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P303+P361+P353	IF IN SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell
P330	Rinse mouth
P370+P378	In case of fire: Use dry sand, dry chemical or alcohol resistant foam for extinction.
P403+P235	Store in a well ventilated place. Keep cool.
P501	Dispose of contents/container to an approved waste disposal plant.

2.3 HNOC (Hazards not otherwise classified or not covered by GHS)

None

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms	2-Heptanone/2-Nonanone/2-Undecanone
Formula	-
Molecular Weight	-
CAS-No	110-43-0/821-55-6/112-12-9
EC-No.	-
Index No.	-

Hazardous Components

Component	Classification	Concentration
2-Heptanone	Flammable liquids (3), H226	<= 100%
2- Nonanone	Acute toxicity, Oral (4), H302	
2-Undecanone	Acute toxicity, Inhalation (4), H332 Very toxic to aquatic life with long lasting effects, H410	

Section 4: FIRST AID MEASURES

4.1 Description of first aid measures

General Advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Inhalation	Provide fresh air; keep at rest and at a comfortable position to breathe. Consult a

	physician
Contact with skin:	Remove contaminated clothing. Rinse skin with cool water then wash with mild soap and warm water. Consult a physician
Contact with eyes:	Rinse thoroughly with plenty of water for at least 15 minutes as a precaution. Consult a physician.
Ingestion	DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Clothing contamination:	Remove contaminated clothing and wash before reuse.
4.2 Most important symptoms and effects both acute and delayed	See section 2.2 and or section 11
4.3 Indication of any immediate medical attention and special treatment needed.	No data available

Section 5: FIREFIGHTING MEASURES

5.1 Extinguishing Media Suitable Extinguishing Media	Use water spray, alcohol resistant foam, dry chemical or carbon dioxide
5.2 Special hazards arising from the substance or mixture	Carbon oxides
5.3 Advice for fire fighters	Wear self contained breathing apparatus for firefighting if necessary. Emits toxic fumes under fire conditions.
5.4 Further information	Use water spray to cool unopened containers.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures	Use personal protective equipment. Avoid breathing vapors. Mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
6.2 Environment precautions	Prevent further leakage or spillage if safe to do so. Do not allow to enter drains or sewage system. Discharge into the environment must be avoided.
6.3 Methods and materials for containment and clean up	Contain spillage. Wet Sweep up with broom and place in a suitable, closed container for disposal.
6.4 Specific end use(s)	Apart from the uses mentioned in section 1.2, no other specific uses are stipulated.

Section 7: HANDLING AND STORAGE

- 7.1 **Precautions for safe handling** Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition-No smoking. Take measures to prevent the buildup of electrostatic charge.
- 7.2 **Conditions for Safe storage** Keep container tightly closed in a dry, cool and well-ventilated place. Containers which have been opened must be carefully resealed and kept upright to prevent leakage.
- 7.3 **Specific End use(s)** Flavorings

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control Parameters	Basis
Heptan-2-one	110-43-0	TWA	50 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks: Skin and eye irritation				
		TWA	100 ppm 465 mg/m ³	USA. Occupational Exposure Limits (OSHA) – Table Z-1 Limits for Air Contaminates
The value in mg/m ³ is approximate				
		TWA	100 ppm 465 mg/m ³	USA. OSHA – Table Z-1 Limits for Air Contaminates – 1910.1000
		TWA	100 ppm 465 mg/m ³	USA. NIOSH Recommended Exposure Limits

8.2 Exposure Controls

Appropriate Engineering Controls Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and at the end of the workday.

Personal protective equipment

These recommendations are advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situations of anticipated use by our customers. They should not be construed as offering an approval or any specific use scenario.

Eye/face protection Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN (166 (EU)).

Skin protection Wear chemically resistant Butyl rubber gloves, 0.3mm. Use proper glove removal techniques (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use. Wash and dry hands.

Body protection Complete suit protecting against chemicals should be selected specifically for the work place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier

Respiratory protection Where risk assessment shows air-purifying respirators are appropriate, use a full face respirator with multi-purpose combination (U) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full faced supplied air respirator. Use respirators and

components tested and approved under appropriate government standards such as NIOSH (U) or CEN (EU).

Control of environmental exposure Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a	Appearance	Colorless to pale yellow liquid
b	Odor	characteristic
c	Odor Threshold	No data available
d	pH	No data available
e	Melting Point /Freezing Point	No data available
f	Boiling Point	~185°C
g	Flash Point	~50°C closed cup
h	Evaporation Rate	No data available
i	Flammability (Solid, Gas)	No data available
j	Upper/lower Flammability Limit	Upper explosion limit: 7.9% (V), Lower explosion limit: 1.11% (V)
k	Vapor pressure	2.85 hPa at 20°C
l	Vapor density	3.94 (Air=1.0)
m	Relative density @25°C	0.818-0.835
n	Solubility	Slightly soluble in water, soluble in alcohol and most organic solvents
o	Partition coefficient: n-octanol/water	log Pow: 1.98
p	Auto-ignition Temp.	358°C at 99.63 hPa
q	Decomposition Temp.	No data available
r	Viscosity	No data available
s	Explosive properties	No data available
t	Oxidizing properties	No data available

9.2 Other Safety Information Surface tension: 26.17 mN/m at 25°C

Section 10: STABILITY AND REACTIVITY

10.1	Reactivity	No data available
10.2	Chemical Stability	Stable under recommended storage conditions
10.3	Possibility of Hazardous reactions	No data available
10.4	Conditions to avoid	Heat, Flames and Sparks
10.5	Incompatible materials	Strong oxidizing agents, Strong reducing agents, Strong bases
10.6	Hazardous decomposition products	No data available
10.7	Further Information	No data available

Section 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity	
LD50-Oral- Rat	1,600 mg/kg
LC50-Inhalation- Rat (m/f)	>16.7 mg/l 4 hr (OECD Test Guideline 403)

LD50-Dermal-Rat (m/f)	>5,000 mg/kg (OECD Test Guideline 402)
Skin corrosion/irritation	Rabbit – Mild skin irritation - 4hr (OECD Test Guideline 404)
Serious eye damage/eye irritation	Rabbit: Mild eye irritation (OECD Test Guideline 405)
Respiratory or skin sensitization	Mouse: Did not cause sensitisation on laboratory animals (OECD Test Guideline 429)
Germ Cell mutagenicity	In Vitro Assay; Lymphocyte: Result: Negative Rat-Female – Result: Negative
Carcinogenicity	<p>IARC No component of this product, present levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.</p> <p>ACGIH No component of this product, present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.</p> <p>NTP No component of this product, present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.</p> <p>OSHA No component of this product, present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.</p>
Reproductive toxicity	No data available
Teratogenicity	No data available
Specific target organ toxicity-single exposure (GHS)	No data available
Specific target organ toxicity-repeated exposures (GHS)	No data available
Aspiration Hazards	No data available
Signs and Symptoms of Exposure	<p>Stomach Irregularities – Based on Human Evidence Central Nervous system depression</p> <p>To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated</p>
Synergistic effects	No data available
RTECS:	No data available

Section 12: ECOLOGICAL INFORMATION

12.1 Toxicity

To Fish:

LC50- Pimephales promelas (fathead minnow) 126-137 mg/l -96 hr

To daphnia and other aquatic invertebrates

EC50-Static test: Pseudokirchneriella subcapitata (Selenastrum capricornutum) 98.2 mg/l 72 hr (OECD Test Guideline 201)

12.2 Persistence and degradability	Biodegradability: Aerobic: Exposure time 28 d Result: 69% - Readily biodegradable (OECD Test Guideline 310) Ration BOD/ThBOD: 1.77%
12.3 Bioaccumulative potential	No data available
12.4 Mobility in soil	No data available
12.5 Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required / not conducted
12.6 Other adverse effects	No data available

Section 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods	
Product:	According to local regulations
Packaging	According to local regulations

Section 14: TRANSPORT INFORMATION

DOT (US)	UN-No 1224; Hazard Class 3; Packing Group III
Proper Shipping Name	KETONES, FLAMMABLE LIQUID, N.O.S.
Reportable Quantity (RQ)	No
Marine pollutant	No
Poison Inhalation Hazard	No
IMDG	UN-No 1224; Hazard Class 3; Packing Group III
Proper Shipping Name	KETONES, LIQUID, N.O.S.
Marine Pollutant	No
IATA	UN-No 1224; Hazard Class 3; Packing Group III
Proper Shipping Name	KETONES, LIQUID, N.O.S.

Section 15: REGULATORY INFORMATION

SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA 313 Components	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established

Safety Data Sheet

by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard

Massachusetts Right to Know
components

Heptan-2-one CAS# 110-43-0 Rev. Date: 4/1/1994

Pennsylvania Right to Know components

Heptan-2-one CAS# 110-43-0 Rev. Date: 4/1/1994
Nonan-2-one CAS# 821-55-6 Rev. Date:
Undecan-2-one CAS# 112-12-9 Rev. Date:

New Jersey Right to Know components

Heptan-2-one CAS# 110-43-0 Rev. Date: 4/1/1994
Nonan-2-one CAS# 821-55-6 Rev. Date:
Undecan-2-one CAS# 112-12-9 Rev. Date:

California Prop. 65 components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16: OTHER INFORMATION

HMIS Rating

Health hazard 1
Chronic Health Hazard*
Flammability 2
Reactive Hazard 0

Further Information

Aurochemicals provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. Aurochemicals makes no representations or warranties, either expressed or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly, Aurochemicals will not be responsible, nor held liable, for damages resulting from use of or reliance upon this information.

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